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An urban oriented and multilayered experience on architectural education in (the global world)

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Abstract

Conventional education has come to be discussed in a formation of global world in which borders between professions become obscure by stratification of intelligence and their interests intersect with each other. Rapid renewal of knowledge and the help of communication facilities for the produced information to be shared instantly recognized an order of life that professionals live in a lifelong education and development. Architecture is fed by the accumulation of knowledge from many disciplines due to the nature of itself. The most important subject in architectural education for the students is to be fed up by these interests and to have the ability (skill) to produce correct relationship between these fields in planning and design and to produce decisions. From that point of view, several diploma projects was held in a number of selected fields with different variables in corporations with local governments at Yıldız Technical University, Faculty of Architecture between the years of 2004 to 2009. In the scope of the studies, Interdisciplinary research, analytical approach, synthesis, planning and design process based studies were carried out at 6 different studios in which organizational structure and fieldworks were determined with the local governments. According to the studios, Architectural and planning-oriented, but in sociology, psychology, economics, environmental science, archaeology, art history feeding project was carried out in different areas at the same time. Project process and outputs were assessed with predetermined evaluation criteria in juries (exams) with the participation of local governments. The project studies, processes and outputs over the results were evaluated and interpreted in the paper.

Keywords: Design Theories, Architectural Design, Case based instructions, multi-diciplinary education

1. Introduction

A Human being is always in communication and interaction with the environment during one's lifetime. Personality, character and behavioral patterns are shaped by past experiences in every stage of life. But when one becomes a professional, begins to perceive and look through environment in the perspective of owned occupation. For example; a chocolate having a meaning in taste, price etc. in childhood, turns into a good which is producible, consumable and marketable in the perspective of a grown up economist. The process works exactly the same for architects. For example; space such as a living room can stimulate different perceptions between children of different strata. Perceptions may differ through many aspects such as size, material and even functionality. Although Architecture has fundamentals and principles on the objective side, owes its diversity to its individual character and the subjective side of the design phenomena. Architecture is not a profession fully empirical. Design process cannot be examined specifically and cannot completely be put up into a single method. For example, it is certain that a wheel cannot be in the form of a triangle, but there are concerns and experiences that a triangle living room results more or less with some loss and useless pieces of space. Additionally, an architectural product is unique, original and

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cannot be repeated, it is consisted of multiple variables such as a certain place, a certain time, for certain needs and requirements and a specific designer. A slightest change in any of these parameters that are inevitable, cause changes in the product and the accuracy, compliance of it becomes questionable. Product of an architectural design can only be examined and discussed after it is constructed and operated according to the user's behaviors and requirements. The experiences gained by subconscious and the formation gained during architectural education which is non-empirical, creates a complex architectural product. In addition to that, sequential process of learning and development in architectural education needs certain improvements. The knowledge is not often acquired by a certain logic order and cause-effect relationship. There is a puzzle-like fuzzy process of learning that students get information and put into memory without further editing. But only after, they come to a level to reorganize information to knowledge within cognition especially during the professional experience. Conventional education has come to be discussed in a formation of global world in which borders between professions become obscure by stratification of intelligence and their interests intersect with each other. Different and new experiences in educational process become more important when subjective and objective aspects of architecture with complex structure in the process of learning and rapid changing global conjuncture are considered together. From that point of view, several diploma projects was held in a number of selected fields with different variables in corporations with local governments at Yıldız Technical University, Faculty of Architecture between the years of 2004 to 2009. In the scope of the studies, Interdisciplinary research, analytical approach, synthesis, planning and design process based studies were carried out at 6 different studios in which organizational structure and fieldworks were determined with the local governments. This paper discusses and mentions these experiences in the scope of architectural education.

2. Subjects and Objectives of the diploma Projects

Hosting multiple intellectual problems and pushing students to research, think and generate ideas on different subjects are the selection criteria's for the topic of the diploma projects rather than the subject of an architectural design. The subjects of the diploma project were based on factual cases that were determined in cooperation with the local governments. The themes and the contents of the courses were decided and created in a series of coordination meetings with the specialists who were working in the municipalities of the settlements. The common characteristics and properties of the settlements are; population of 10.000-50.000, located outside the boundaries of metropolitan areas, contains urban, archeological or natural conservation areas, contains considerable number of building stock that are worthy conservable, have a potential of various topics such as tourism, agriculture, natural environment.

Apart from the subjects and fields, the diploma projects processes intended students to gain two main types of skills which were behavioral and intellectual as an architect. These skills are closely related with the content of the projects and study fields.

1. Behavioral skills

a. Behavioral skills as an architect with the same occupation which are; gaining the ability to work in groups with task sharing, planning and organization of the process, taking the responsibility of both for their own and the team mate, developing and finalizing a common product.

b. Behavioral skills as an architect with different occupations which are obtaining and sharing information and directing specializations according to the aims of the project.

2. Intellectual skills

Learning data gathering techniques and application, making the use of information, synthesizing information, generating ideas according to collected datum and designing consistent to the idea that were generated.

3. Structure and Form of Execution in the Diploma Project course

Although every diploma project has the same structure and form of execution, they diversify according to their study of location and the design issue that must be solved. This situation requires a preliminary study for the instructors of each course and the local governors to organize the site-specific studies and to determine the design issues. Each topic of the course was being shaped by the demand of the local governments and each instructor team was being constituted according to the subject of the design issue. Architects, urban planners, art and architecture historians, restorers, agriculture engineers, forest engineers, civil engineers, ecologists, sociologists were the possibilities for the participants of the instructor teams. Each Diploma project is consisted of three stages. Each stage

lasts in 5 weeks of time and contains different kinds of agendas and methods of working. The performances of the students were being tested by different kinds of expertise according to their studies and outputs in the scope of the objectives of the courses at the end of the each stage.

<table>
<tr><th>SCHEDULE</th><th>AGENDA</th><th colspan="8">METHOD of WORKING</th><th>OUTPUT</th><th>Participants</th></tr>
<tr><td rowspan="3">1-5 weeks</td><td>Collecting info by using research techniques</td><td colspan="8" rowspan="3">Whole class as a team</td><td>Analytic research report</td><td>Local governments</td></tr>
<tr><td>Field work research</td><td rowspan="2">Analytic outputs from scales of 1/25.000 to 1/1000</td><td>Inhabitants of settlements</td></tr>
<tr><td>Synthesis, make use of datum</td><td>Instructors</td></tr>
<tr><td rowspan="3">5-10 weeks</td><td>Creating a common conceptual idea</td><td colspan="2">Sub-teams</td><td colspan="2">Sub-teams</td><td colspan="2">Sub-teams</td><td colspan="2">Sub-teams</td><td>Conceptual research report</td><td>Instructors</td></tr>
<tr><td>Designing a common conceptual plan</td><td rowspan="2">Conceptual master plan 1/1000 scale</td><td rowspan="2">Experts from different fields</td></tr>
<tr><td>Designing a master plan</td></tr>
<tr><td rowspan="2">10-15 weeks</td><td>Partial design issues</td><td>individuals</td><td>individuals</td><td>individuals</td><td>individuals</td><td>individuals</td><td>individuals</td><td>individuals</td><td>individuals</td><td rowspan="2">Architectural design scales 1/500 to 1/20</td><td>Instructors</td></tr>
<tr><td>Revision of master plan</td><td colspan="8">individuals individuals individuals individuals individuals individuals individuals individuals</td><td>Local governments</td></tr>
</table>

Fig. 1. The framework of the Diploma Project course

3.1 Analytic Research and Field Studies

First stage is mainly based on collecting datum-info and forming them into profitable conditions. The whole course participants work as a team and collect information both from references and with the field studies. In the beginning of the semester the students were informed by the instructors in the first week according to the specification of the design issues so that they were able perform field study with preliminary information such as demographic, economic, socioeconomic structure of the site, geographical information, location and transportation, population etc. Questionnaires with inhabitants, conversations with local governors and historians, determinations on the site such as; physical conditions of the building stock (functions, materials, density, height, construction techniques and time of period, facades), physical conditions of the public space (urban transport, urban pattern, functions, materials), determination of vernacular architecture were the collecting information techniques that were used by the students. Some possibilities for outputs of the analytic research; Demographic, Economic, socioeconomic structure of the settlement, results of the questionnaires (Statistical datum), land-use density, Functions, number of storey, construction techniques and materials of building stock, Determination of pedestrian and vehicle ways and Determination of vernacular architecture and building component details such as doors, windows, fringes, shapes of roofs etc., Urban pattern, Facades of the streets, Characteristics of blocks and parcel settlements. The collected all kinds of information were being processed into useful forms of data such as zonings, typologies, characteristics and scientific comments that could have been used for conceptual ideas of sub-team students afterwards. The performances of the whole students were being examined by a jury of tutors, advisor tutors and governors with presentations and reports at the end of the fifth week.

3.2 Creation of conceptual ideas and designing master plan

In the second stages; the whole class was divided into sub-teams of 4 students. The aim of the second stage is to create a conceptual idea for the working area and design a common master-conceptual plan. Each team processes datum, create alternatives of ideas and hold a controversy in sub teams on the alternatives to achieve the goal. Developing a conceptual idea requires detailed information to be processed. The students refer to experts of the course from different fields according to their conceptual ideas. (Architecture, urban planning, history of art and architecture, restoration, agriculture engineering, forest engineering, civil engineering, ecology, sociology etc.) The sub teams come to consensus of opinion on their conceptual idea and design a master-conceptual plan and a common

site plan. The performances of the sub teams were being examined by a jury of tutors, advisor tutors and governors with presentations and reports at the end of the fifth week. The collective way of working and individual's contribution to the joint project is very important and an evaluation criteria as much as the success of the final product at this stage.

3.3 Creation Partial (individual) Design Issues – Revision of Common Site Plan

The students both work as an individual and with sub team together in the third stage. They divide and share sub regions of the common site plan and design their own parts. Checking the relations between the sub regions by feedbacks and revision of the common site plan is the most important issue in this stage, because all individual design of the sub regions must be compatible with the site plan and contribute to the conceptual ideas and plan in a consensus. The individual designs are developed and detailed till the end of stage and finalized correspondence with the sub-teams. Each stage was determined by a jury that were twice through the semester. At the end of the semester the whole projects were determined by final juries that were consisted of instructors, representatives of NGO's and representatives of local governments (Governors, mayors, directors of development, urban planners, architects etc.). And they were also presented in exhibitions at the settlements where the projects were carried out for the opinion of the communities.

4. Conclusion

The diploma projects which were carried out by Yıldız Technical University, Faculty of Architecture between years of 2004 to 2009 had acquired different subjects, but they had the same method of execution and the scales of settlements that were subjected to the studies as described above. Therefore the methods that were carried out in the courses, the behavioral patterns and tendencies of the students, the skills to gain and their success in the studies could be evaluated and interpreted together. 236 students participated in 6 different diploma project courses. 214 students (%90.6) were succeeded and became eligible to receive a diploma of architecture and 22 students couldn't succeed. (%9.4) The percentage of success is higher than the other diploma projects which were carried out simultaneously with different methods. The local ministers and the local specialist took place in the process of evaluation of the students' achievement. The method of achievement evaluation for individuals is as the following table. 101 students (%47.2) of the successful students graduated with high grades that are A, A- and B+. 69 students (%32) of the successful students graduated with overall grades that are B and B-. 44 students (%20.5) of the successful students graduated with minimum grades that are C+ and C. The degree of the success among the accomplished students was higher than the diploma projects that were carried out at the same time. Most of the students who failed in the diploma project courses were the ones who were discontinuous. There were just 6 (%27 of the unsuccessful) students who were continuous and failed at the course.

The observed student behavior in the acquisition are targeted skills are as follows;
Collaborative design: The students mostly carry out their design studios individually in a group of 10-15 students until the diploma project in architectural education, so that they were not used to design collaboratively. In diploma project studios, it was observed that they had difficulties to maintain a joint project both in sub teams (3-4 students) and the in the whole class (30-40 students). It was observed that the students perform better in sub-teams when it is compared with the whole class. The performance of groups decreases as the number of group participants' increase. The groups need to guide is increasing as the number of group participants increasing. *Case based design (CBD):* The subjects of the design studios are mostly edited by the lecturers, so that the solutions of the problems encountered in the design process are realistic according to the profiles of the instructors. The process of the design and the parameters in design (requirements, regulations, rules and laws etc.) becomes realistic and responsive when the problems to be solved and the representatives of them are actual cases. *Transitivity between scales in design:* There were different scales of design from 1/25.000 to 1/50 in the content of the diploma projects. The students used to have difficulties to pass their idea to sub scales without deviating it. Transitivity between the scales in design reduces when the upper scale design ideas were common and the sub-scale ideas were individual, but they mostly got used to it by the end of the course. The well-accustomed it was more successful. *High levels of student's involvement-less domination of instructors:* Didactic method of learning in architecture suppresses students to take the responsibility of their own through the process of carrying out design. Architectural education is bound to be didactic at the beginning for the students to understand architectural notions, but it must reduce throughout the

process for creativity and responsibility. The students who required higher guidance of instructors were less successful than the students who were able to put their own individual preferences that fed up by knowledge. *Broad-based assessment*: The diploma projects are mostly executed by instructors with expertise in design, but students used to be fed up by a very wide range of fields of knowledge, so that they must be assessed by broad-based faculty. The diploma projects allowed such an opportunity more over it allowed students to face with actual and real cases and allowed to be assessed by their potential patterns in tasks such as local governments (Governors, mayors, directors of development, urban planners, architects etc.)

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